

Work Order ID 162627

Monday, June 05, 2017 10:33:05 AM

162627

Page 1

Item ID: D2353 Accept ***N900040100*** Setup Start ***NS1***
 Revision ID: Stop ***NS2***
 Item Name: Stiffener
 Start Date: 6/7/2017 Start Qty: 5.00 ***5*** Cust Item ID:
 Required Date: 6/15/2017 Req'd Qty: 5.00 ***5*** Customer:

Reference: **DAS 21**
 Approvals: Process Plan: **9-89** Date: **JUN 07 2017** Tooling: Date: Run Start ***NR1***
 QC: Date: SPC (Y/N): Date: Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
D2353	Rev C								

100 FLOW WATER JET 0.01
100
 Waterjet Memo 0.26
 FLOW CNC Waterjet 1-Cut as per Dwg D2353 Dwg Rev: C Prog Rev: C 2-
 Deburr if necessary

⑤ SC 17/06/11

110 QC2- Inspect parts off machine FAI/FAIB 0.00
110
 QC Memo 0.05
 Quality Control

⑤ SC 17/06/11
 R 17-06-1

120 QC8- Inspect parts - second check 0.00
120
 QC Memo 0.10
 Quality Control

5

DAS 38 9-89
JUN 12 2017

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval		
Description Work Order Deviation				Disposition				Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐								
Misidentified ☐	Past Due ☐	OTHER : ☐							

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Page 2

Accept

N900040100

Setup Start *NS1*

Stop *NS2*

Item Name: Stiffener

Start Date: 6/7/2017 **Start Qty:** 5.00 ***5***

Cust Item ID:

Required Date: 6/15/2017 **Req'd Qty:** 5.00 ***5***

Customer:

Reference:

Approvals: **Process Plan:** _____ **Date:** _____ **Tooling:** _____ **Date:** _____

Run Start *NR1*

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop *NR2*

[illegible]

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				QC / QA Coordinator Approval	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
OTHER : ☐					

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Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
180	Identify as per dwg & Stock Location: <u>5+225A</u>	0.00							
180									
Packaging	Memo	0.05							
Packaging									
190	QC21- Final Inspection - Work Order Release	0.00							
190									
QC	Memo	0.50							
Quality Control									

JUN 21 2017

17/6/21

JUN 21 2017

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE



QA Closed: _____ Date: _____

Work Order update only ☐

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<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th colspan="3" style="text-align: left;">Root Cause</th> <th colspan="4" style="text-align: left;">FAULT CATEGORY</th> </tr> </thead> <tbody> <tr> <td style="width:10%;">Environment ☐</td> <td style="width:10%;">☐</td> <td style="width:10%;">No Re-verification</td> <td style="width:10%;">☐</td> <td style="width:10%;">Pressure/Forced</td> <td style="width:10%;">☐</td> <td style="width:10%;">Temperature/Cure</td> <td style="width:10%;">☐</td> <td style="width:10%;">Power Loss/Surge</td> <td style="width:10%;">☐</td> <td style="width:10%;">Positioned Wrong</td> </tr> <tr> <td>Design ☐</td> <td>☐</td> <td>Operator</td> <td>☐</td> <td>Bending</td> <td>☐</td> <td>Set-up</td> <td>☐</td> <td>Folio/Program</td> <td>☐</td> <td>Outside Dimensions</td> </tr> <tr> <td>Doc/Data ☐</td> <td>☐</td> <td>Offset/Setup</td> <td>☐</td> <td>Centre Not Concentric</td> <td>☐</td> <td>BOM/Route</td> <td>☐</td> <td>Grain</td> <td>☐</td> <td>Over/Under tolerance</td> </tr> <tr> <td>Equip/Tooling ☐</td> <td>☐</td> <td>Supplier</td> <td>☐</td> <td>Cracks</td> <td>☐</td> <td>Broken/Damage/Defect</td> <td>☐</td> <td>Weld</td> <td>☐</td> <td>Part Incorrect</td> </tr> <tr> <td>Handling/Pre ☐</td> <td>☐</td> <td>Training</td> <td>☐</td> <td>Crimp/Kink/Ripple/Wave</td> <td>☐</td> <td>Inspection Incomplete/Unqualified</td> <td>☐</td> <td>Wrong Stock Pulled</td> <td>☐</td> <td>Part Lost/Missing</td> </tr> <tr> <td>Material ☐</td> <td>☐</td> <td>Use for Testing</td> <td>☐</td> <td>Cuffs</td> <td>☐</td> <td>Contamination</td> <td>☐</td> <td>Out of Sequence</td> <td>☐</td> <td>Part Moved</td> </tr> <tr> <td>Internal Transport ☐</td> <td>☐</td> <td>Poor Information</td> <td>☐</td> <td>Crushing</td> <td>☐</td> <td>Countersink</td> <td>☐</td> <td>Off-set</td> <td>☐</td> <td>Drawing</td> </tr> <tr> <td>Tribal Knowledge ☐</td> <td>☐</td> <td>Rushing</td> <td>☐</td> <td>Heat Treat</td> <td>☐</td> <td>Cut Too Short</td> <td>☐</td> <td>Mislabeled</td> <td>☐</td> <td>Finish</td> </tr> <tr> <td>LOA ☐</td> <td>☐</td> <td>Product Improvement</td> <td>☐</td> <td>Wave/Twist in Tube</td> <td>☐</td> <td>Instructions Incomplete/Unclear</td> <td>☐</td> <td>Fit/Function</td> <td>☐</td> <td>Misread</td> </tr> <tr> <td>Substation ☐</td> <td>☐</td> <td>Process Improvement</td> <td>☐</td> <td>Marks/Chatter</td> <td>☐</td> <td>Drill Holes</td> <td>☐</td> <td>Misaligned/off center</td> <td>☐</td> <td>Turning Sequence</td> </tr> <tr> <td>Past Expiry Date ☐</td> <td>☐</td> <td>Manufacturing Process</td> <td colspan="8" rowspan="2" style="text-align: center; vertical-align: top;"> OTHER : _____ </td> </tr> <tr> <td>Misidentified ☐</td> <td>☐</td> <td>Past Due</td> </tr> </tbody> </table>						Root Cause			FAULT CATEGORY				Environment ☐	☐	No Re-verification	☐	Pressure/Forced	☐	Temperature/Cure	☐	Power Loss/Surge	☐	Positioned Wrong	Design ☐	☐	Operator	☐	Bending	☐	Set-up	☐	Folio/Program	☐	Outside Dimensions	Doc/Data ☐	☐	Offset/Setup	☐	Centre Not Concentric	☐	BOM/Route	☐	Grain	☐	Over/Under tolerance	Equip/Tooling ☐	☐	Supplier	☐	Cracks	☐	Broken/Damage/Defect	☐	Weld	☐	Part Incorrect	Handling/Pre ☐	☐	Training	☐	Crimp/Kink/Ripple/Wave	☐	Inspection Incomplete/Unqualified	☐	Wrong Stock Pulled	☐	Part Lost/Missing	Material ☐	☐	Use for Testing	☐	Cuffs	☐	Contamination	☐	Out of Sequence	☐	Part Moved	Internal Transport ☐	☐	Poor Information	☐	Crushing	☐	Countersink	☐	Off-set	☐	Drawing	Tribal Knowledge ☐	☐	Rushing	☐	Heat Treat	☐	Cut Too Short	☐	Mislabeled	☐	Finish	LOA ☐	☐	Product Improvement	☐	Wave/Twist in Tube	☐	Instructions Incomplete/Unclear	☐	Fit/Function	☐	Misread	Substation ☐	☐	Process Improvement	☐	Marks/Chatter	☐	Drill Holes	☐	Misaligned/off center	☐	Turning Sequence	Past Expiry Date ☐	☐	Manufacturing Process	OTHER : _____								Misidentified ☐	☐	Past Due
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Picklist Print

Monday, June 05, 2017 10:33:04 AM

Page 1

Work Order ID: 162627

162627

Parent Item: D2353

D2353

Parent Item Name: Stiffener

Start Date: 6/7/2017

Required Date: 6/15/2017

Start Qty: 5.00

Required Qty: 5.00

Comments: IPP Rev: A Removed from 9 Digit 05-11-10 EC
IPP: B 06.11.15 waterjet EC
IPP: c 06.12.07 ecn 836 ec

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
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M2024T3S.050

Purchased

No

100

sf

111.5800

0.1463

0.77

M2024T3S 050

**

SC 17/06/11

2024-T3 .050 sheet

Location

Loc Qty

Loc Code

MAT022

111.58

m134581

16.18

m137626

95.4

0.8

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

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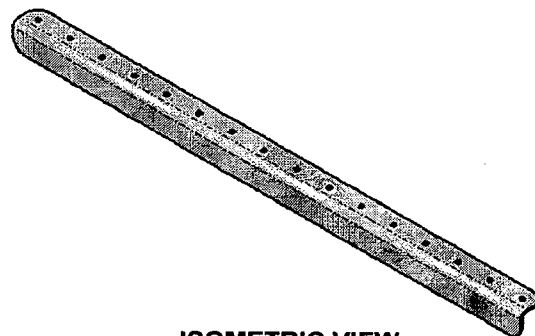
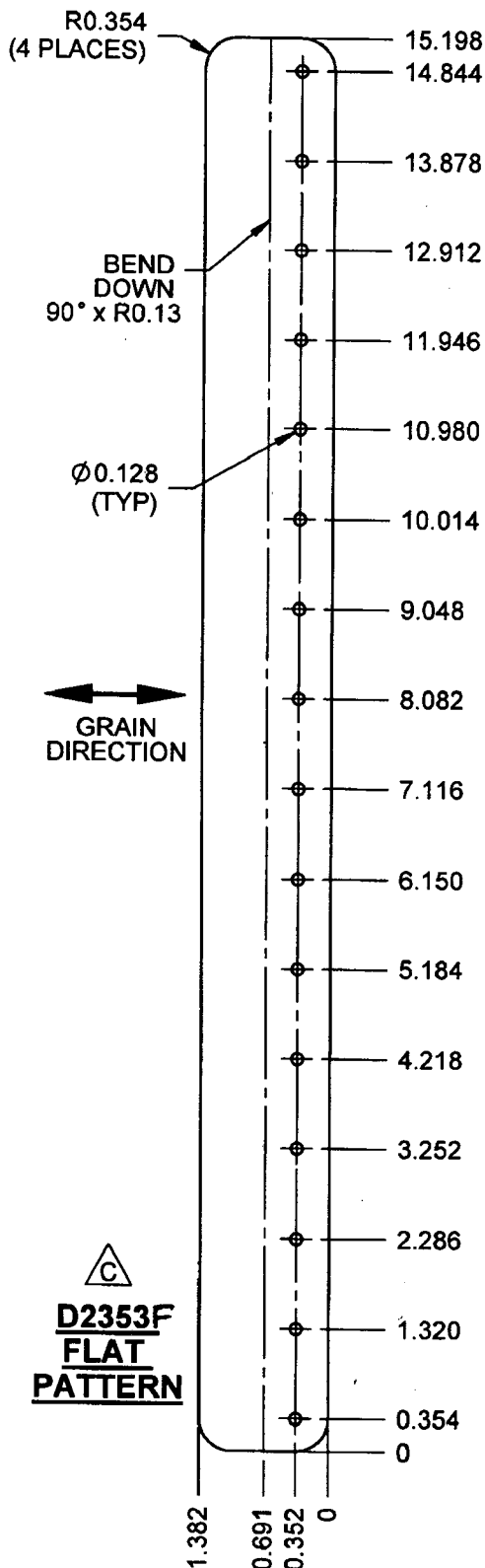
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☐ OTHER : _____					



DESIGN BW	DRAWN BY CB	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED LE	APPROVED [Signature]	DRAWING NO. D2353	REV. C SHEET 1 OF 1
DATE 06.11.13	TITLE STIFFENER	SCALE 1:2	
REV	DATE	DESCRIPTION	
B	95.02.23	ADD TEXT	
C	06.11.13	ADD FLAT PATTERN; ADD NOTES; UPDATE DWG	

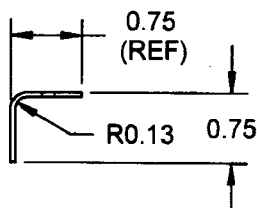


ISOMETRIC VIEW
SCALE 1:4



NOTES:

- 1) MATERIAL: ALUMINUM 2024-T3 SHEET, 0.050 THICK
PER QQ-A-250/4 OR AMS 4037
(REF DART SPEC M2024T4S.050)
- 2) FINISH: CHEMICAL CONVERSION COAT
PER DART QSI 005 4.1
POWDER COAT BLACK SANDTEX (4.3.5.7)
PER DART QSI 005 4.3
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS
OTHERWISE NOTED
- 4) IDENTIFY WITH DART P/N "D2353" USING A WHITE
FINE POINT PERMANENT INK MARKER
- 5) ALL DIMENSIONS ARE IN INCHES UNLESS
OTHERWISE NOTED
- 6) BREAK ALL SHARP EDGES 0.005 TO 0.010 MAX



D2353
BEND DETAIL

170607
MS
NO. 162607
WORK ORDER
WITHOUT NOTICE
SUBJECT TO AMENDMENT
UNCONTROLLED COPY
ENGINEERING
RETURN TO
SHOP COPY

RELEASED
06.11.28 [Signature]

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DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval		
Description Work Order Deviation				Disposition				Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval	

Root Cause				FAULT CATEGORY							
Environment ☐		No Re-verification ☐		Pressure/Forced ☐		Temperature/Cure ☐		Power Loss/Surge ☐		Positioned Wrong ☐	
Design ☐		Operator ☐		Bending ☐		Set-up ☐		Folio/Program ☐		Outside Dimensions ☐	
Doc/Data ☐		Offset/Setup ☐		Centre Not Concentric ☐		BOM/Route ☐		Grain ☐		Over/Under tolerance ☐	
Equip/Tooling ☐		Supplier ☐		Cracks ☐		Broken/Damage/Defect ☐		Weld ☐		Part Incorrect ☐	
Handling/Pre ☐		Training ☐		Crimp/Kink/Ripple/Wave ☐		Inspection Incomplete/Unqualified ☐		Wrong Stock Pulled ☐		Part Lost/Missing ☐	
Material ☐		Use for Testing ☐		Cuffs ☐		Contamination ☐		Out of Sequence ☐		Part Moved ☐	
Internal Transport ☐		Poor Information ☐		Crushing ☐		Countersink ☐		Off-set ☐		Drawing ☐	
Tribal Knowledge ☐		Rushing ☐		Heat Treat ☐		Cut Too Short ☐		Mislabeled ☐		Finish ☐	
LOA ☐		Product Improvement ☐		Wave/Twist in Tube ☐		Instructions Incomplete/Unclear ☐		Fit/Function ☐		Misread ☐	
Substation ☐		Process Improvement ☐		Marks/Chatter ☐		Drill Holes ☐		Misaligned/off center ☐		Turning Sequence ☐	
Past Expiry Date ☐		Manufacturing Process ☐		☐ OTHER :							
Misidentified ☐		Past Due ☐									